



U.S. Department
of Transportation
**Research and
Special Programs
Administration**

MAY 11 2004

400 Seventh St., S.W.
Washington, D.C. 20590

Mr. George A. Kerchner
The CapAnalysis Group, LLC
1299 Pennsylvania Avenue, NW
Washington, DC 20004-2402

Ref No.: 04-0064

Dear Mr. Kerchner:

This responses to your March 18, 2004 letter requesting clarification of shipping requirements under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) and the International Civil Aviation Organization's Technical Instructions for the Transport of Dangerous Goods by Air (ICAO Technical Instructions) for lithium batteries contained in or packed with equipment. Your questions are paraphrased and answered as follows:

Question 1: Under the HMR and ICAO Technical Instructions, must lithium batteries contained in equipment be packaged in UN specification packagings?

Answer 1: No. Under the HMR, § 173.185(g) permits equipment containing lithium batteries to be transported as a Class 9 material if the batteries meet all requirements of § 173.185(e) and are packaged as specified in paragraph (g)(1) of § 173.185. Similarly, the ICAO Technical Instructions permit equipment containing lithium batteries to be packaged in strong outer non-specification packaging.

Question 2: To comply with HMR and ICAO requirements for shipping lithium batteries packed with equipment, may a shipper use a large outer packaging that conforms to Packing Group II performance requirements for both the batteries and the equipment rather than placing the batteries in a Packing Group II packaging and using an overpack to consolidate the equipment and batteries?

Answer 2: No. Under both the HMR and the ICAO Technical Instructions, lithium batteries packed with equipment must be packaged in an inner packaging that conforms to



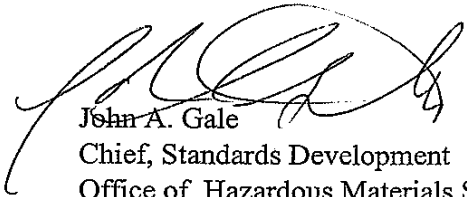
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Packing Group II specifications. The inner packaging may then be placed in a non-specification outer packaging with the equipment.

I hope this information is helpful. Please contact us if you require additional assistance

Sincerely,

A handwritten signature in black ink, appearing to read 'John A. Gale', is written over the printed name.

John A. Gale
Chief, Standards Development
Office of Hazardous Materials Standards

CAP ANALYSIS

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March 18, 2004

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Relferford
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Lithium Batteries
04-0064

Via Facsimile

Mr. Edward Mazzullo
Director of Hazardous Materials Standards
Research and Special Programs Administration
U.S. Department of Transportation
400 7th Street, SW
Washington, DC 20590

Re: Request for Interpretation on Packaging Requirements for
Lithium Batteries Contained in or Packed With Equipment

Dear Mr. Mazzullo:

I am writing to request clarification on the packaging provisions in the U.S. hazardous materials regulations (HMR) and ICAO Technical Instructions (TI) that pertain to Class 9 lithium batteries when contained in equipment or packed with equipment. I spoke to "Mike" with the Hazardous Materials Information Center on March 15, 2004 about this issue, and we both agreed that a letter of interpretation would help clarify these packaging provisions.

Lithium Batteries Contained in Equipment

The U.S. hazardous materials table (49 CFR § 172.101) contains a reference to Packing Group II packaging for "Lithium batteries contained in equipment." However, 49 CFR § 173.185(g)(1) states that "*Equipment containing cells and batteries must be packed in a strong outer packaging...*"

The ICAO TI List of Dangerous Goods references Special Provision A48 for "Lithium batteries contained in equipment," which states that "*Packaging tests are not considered necessary.*" In addition, Packing Instruction 912 of the ICAO TI states that "*Equipment containing lithium batteries must be contained in strong outer packaging.*"

Question 1: Based on the information above, is it correct to assume that performance oriented packaging is not required when shipping Class 9 lithium batteries contained in equipment?

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Lithium Batteries Packed with Equipment

For "Lithium batteries packed with equipment," the U.S. HMR require cells and batteries *"be packed in inner packagings conforming to (e)(5) of this section in such a manner as to effectively prevent moving and short circuits."* See 49 CFR 173.185(g)(2). (I believe this provision should actually reference (e)(4), not (e)(5).)

Packing Instruction 918 of the ICAO TI is applicable to "Lithium batteries packed with equipment" and it requires cells and batteries be packed in Packing Group II packaging. Packing Instruction 918 also states that *"The equipment and the packages of lithium cells or batteries must be overpacked."*

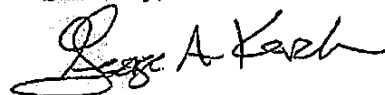
Based on the U.S. HMR and ICAO TI, it appears that a shipper of "Lithium batteries packed with equipment" can use Packing Group II packaging for the lithium cells or batteries and use an overpack to consolidate the equipment and batteries.

Question #2: Assuming the previous sentence is correct, can a shipper also use a large Packing Group II outer package to comply with the packaging requirements of the U.S. HMR and ICAO TI rather than placing the Class 9 cells or batteries in a Packing Group II package and then using an overpack to consolidate the equipment and batteries?

* * * * *

Thank you for taking the time to consider these issues. I look forward to your timely response.

Sincerely,



George A. Kerchner